A Dangerous Neighbor

for Wheat, Oats, Barley, and Rye

The common barberry

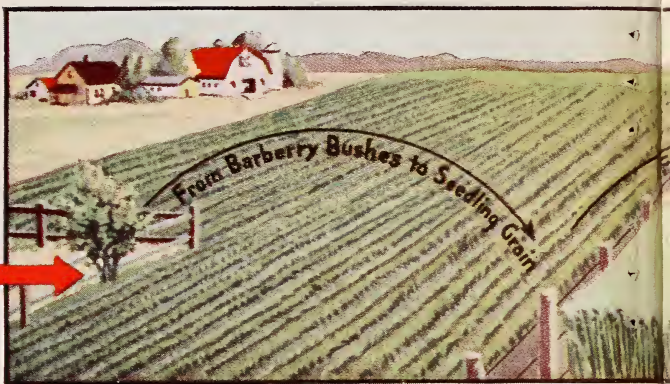
UNITED STATES
DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY

* * * and the States of Colorado, Illinois, Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, and Wyoming cooperating.

Miscellaneous Publication No. 131

By Donald G. Fletcher, Collaborator, Division of Barberry Eradication, in cooperation with leaders in charge of barberry eradication.

How Black Stem Ru



EARLY SPRING

Black stem rust is one of the most destructive diseases that attacks wheat, oats, barley, and rye. This parasite not only steals all of its food from other plants but ruptures the stems of the growing crops, allowing much of the moisture to evaporate. The result is light-weight and poor-quality grain. Heavily infected plants may die early and yield very little.

Early in the spring the black rust spores that have lived through the winter on old straw and stubble germinate and cause rust on the leaves of common barberry bushes growing near by. The orange-colored spots on the barberry leaves are small cuplike growths containing thousands of tiny rust spores which can cause rust on growing grain. An average-sized barberry bush can produce more than 64,000,000,000 rust spores at one time. The wind carries these spores to near-by wild grasses or grain fields, where they cause the red or summer stage of the rust.

LEARN TO KNOW THE COMMON BARBERRY AND ASSIST IN ITS DESTRUCTION

COMMON BARBERRY

Growth—Tall, erect shrub, with many canes, any height up to 10 feet.

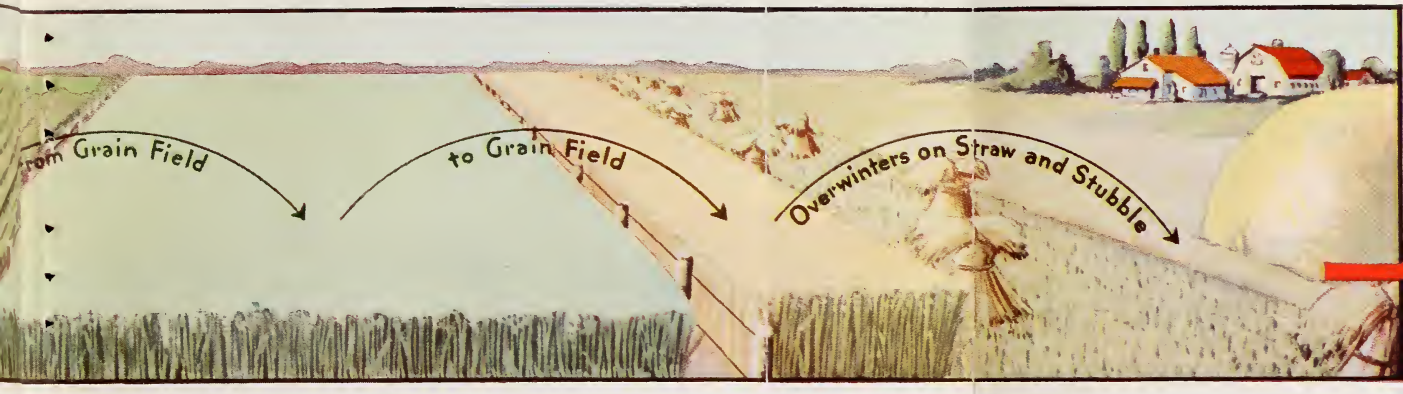
Leaves—Green or purple, with saw-toothed edges.

Spines—Usually three to five in a group.

Reduce Black Stem Ru

Report the location of all common barberry bus

Rust Spreads from Common Barberry to Grain



ALL SUMMER

The rapidity with which the rust spreads from one grain field to another depends upon the weather. If the weather is hot and muggy, new crops of red spores are produced on the grain plants every 6 to 10 days. These spores spread from grain field to grain field throughout the growing season. Live rust spores from barberry have been found 7,500 feet in the air, indicating that barberry bushes growing in one county may be the cause of rust in another county many miles away.

Common salt applied to the base of a bush kills it quickly and prevents sprouting

FALL AND WINTER

In the fall or as soon as the grain begins to ripen, black, overwintering spores are produced on the grains and grasses. These black spores, which give the disease its name, remain alive throughout the winter. In the spring the warm weather causes them to germinate. If there are no common barberry bushes near, they die. The red spores which spread from grain field to grain field during the growing season will not survive the winter in the Northern States. Therefore, local spreads of stem rust may be prevented by eliminating common barberry bushes. There are many kinds of rust that attack many different plants, but the black spores of stem rust can attack only common barberry and from it spread to the growing wheat, oats, barley, and rye.

A tremendous amount of rust spreads from common barberry bushes to grain each growing season. Furthermore, these bushes are a menace to newly developed rust-resistant varieties of small grains as they are the breeding grounds for new kinds of stem rust.

Destroy all common barberry bushes.

COMMON BARBERRY

Bark—Outer bark gray, inner bark and roots bright yellow.

Flowers—Small, fragrant, yellow flowers in clusters.

Berries—Bright red, oval berries borne in bunches like currants.

Losses by Eradicating All Common Barberry Bushes

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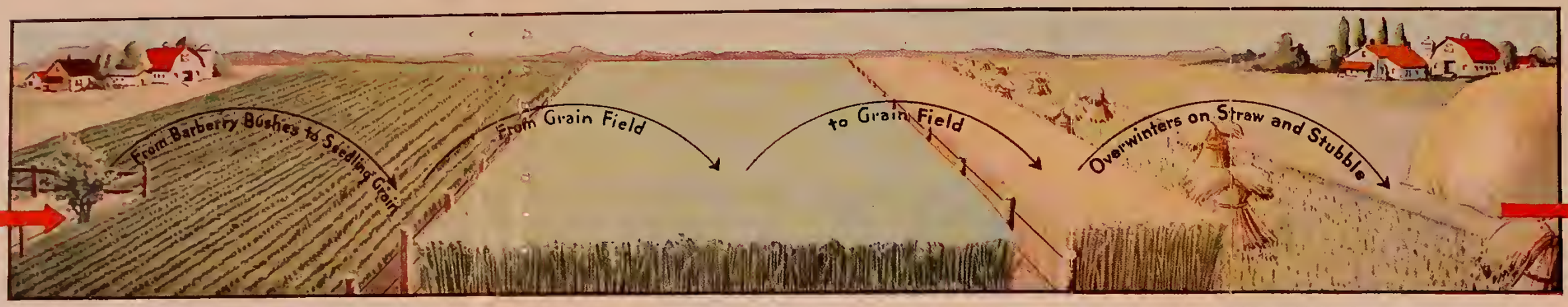
How Black Stem Rust Spreads from Common Barberry to Grain



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Reduce Black Stem Rust Losses by Eradicating All Common Barberry Bushes

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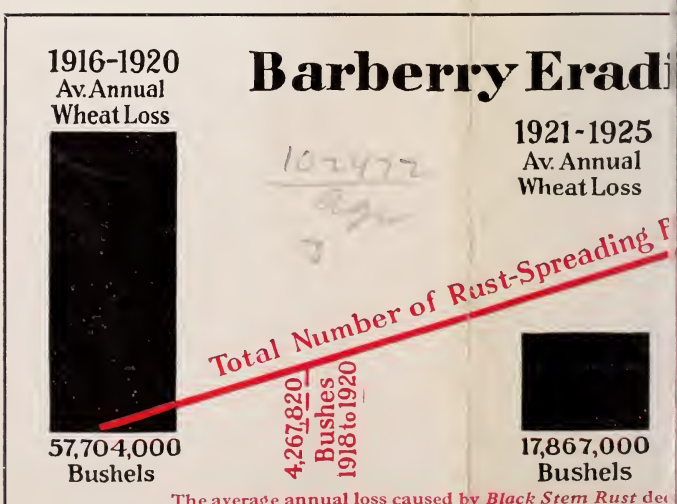
PROFIT

Plump, healthy wheat

RUST HISTORY

Wheat, oats, barley, and rye all are attacked by black stem rust, which spreads from the common barberry. The control of this disease through the eradication of the common barberry bush is not a new and untried method. As early as 1660 France had laws condemning these bushes. Denmark, the Netherlands, Germany, Norway, England, and France have for years controlled black stem rust by their constant efforts to keep the barberry from being grown within their borders.

In May, 1726, the first law against the common barberry was passed in what is now the United States, but it was not until 1918 that an organized eradication movement was begun. Since that time 13 North Central States and the Federal Government have located and destroyed more than 18,500,000 common barberry bushes. Real progress has been made in controlling rust.



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LOSS

Shrunken, rust-shriveled wheat

WHERE TO LOOK FOR COMMON BARBERRY BUSHES

First—In shrubbery plantings around homes.
Second—In gardens and orchards.
Third—In pastures and wood lots.
Fourth—In fence rows, hedges, and windbreaks.
Fifth—On banks of streams and lakes.

Common barberry is not native to this country and was originally planted for ornamental purposes. The bushes produce large numbers of berries, which are eaten by birds and animals, and the seeds are spread by them for many miles. To find and eradicate the seedlings and bushes thus started is very difficult because they are often scattered in rough, rocky pastures, along streams, and in woodlands, among tall grass and weeds.

JAPANESE BARBERRY IS HARMLESS
DO NOT DESTROY

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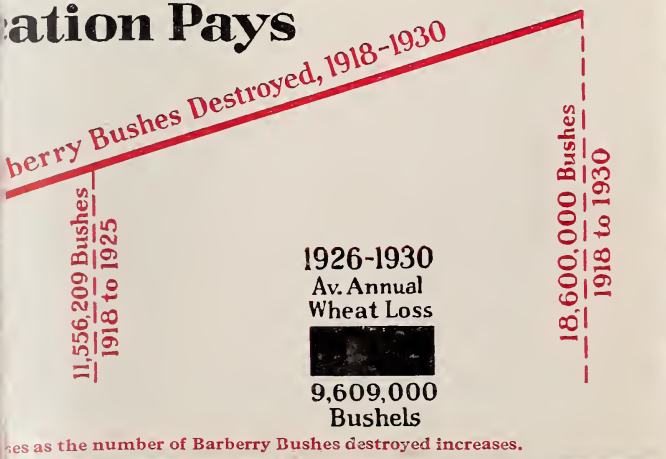

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PLANT DISEASES are robbing the farmers of millions of dollars each year. Black stem rust is one of the worst offenders. DISEASED AND SHRUNKEN PRODUCTS ALWAYS ARE DISCOUNTED WHEN MARKETED. Reduction of crop production is being advocated; therefore control plant diseases, grow healthy crops, and receive greater returns per acre, on fewer acres.

PROFIT

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or

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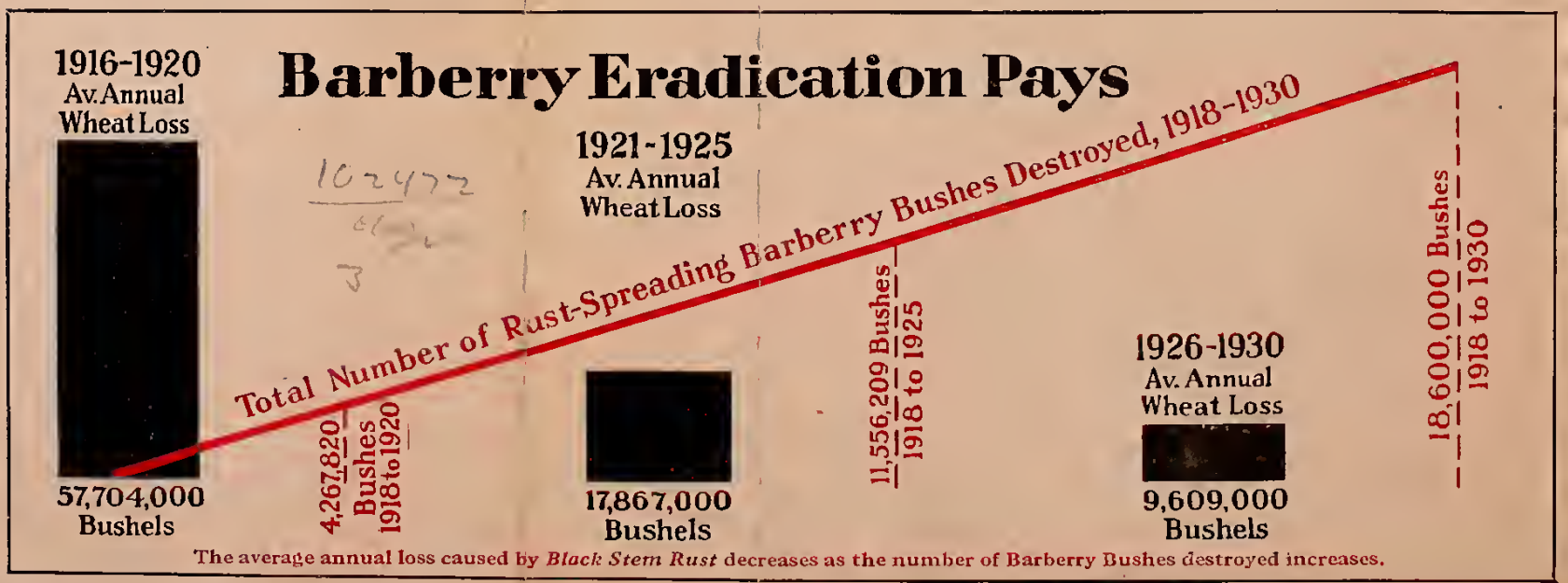

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